Clean Water starts with you

Trumbull Lake

Pollutant: *Algae and turbidity*

Pollution Sources: *Row crop agriculture, pasture land, internal lake recycling*

The DNR tests waters throughout Iowa to make sure they are meeting state water quality standards. Those standards are in place to protect drinking water, aquatic life and recreational uses, like swimming. When a stream or lake doesn't meet those standards, the stream or lake is placed on the state's impaired waters list. The DNR then creates a plan which outlines ways Iowans can help improve the water quality in their community's lakes and streams.

DNR needs your input

Every Iowan needs the help of their fellow citizens and watershed groups to improve water quality in their community. If you or your group would like to meet with a DNR staff member to discuss water quality, please contact Chris Van Gorp at (515) 281-4791 or Chris.VanGorp@dnr.state.ia.us

DNR

For more information on water quality improvements plans (TMDLs), please visit www.iowadnr.com/water/tmdl-wqa/ .

What's wrong with Trumbull Lake?

Excessive algae blooms and poor water clarity keep the Clay County lake from meeting its state-designated standards.

These algae blooms and poor water clarity make the lake less appealing, both visually and for recreational uses like swimming. However, the algae blooms and cloudy water do not pose a specific human health threat.

What is causing the problem?

Most pollution in the Trumbull Lake watershed (the area of land that drains into the lake) comes from nonpoint sources, or sources that are not easily traced back to a specific "point," like a wastewater treatment or industrial plant.

In the Trumbull Lake watershed, nonpoint sources include areas of row crop, pasture and direct precipitation.

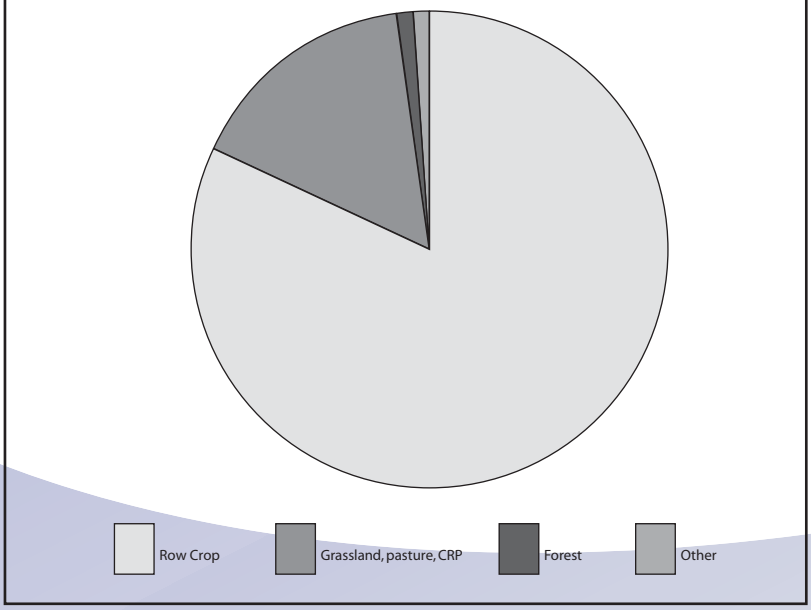
The shallow nature of Trumbull Lake allows the lake to constantly mix, stirring up sediment and nutrients from the lake bottom. This can cause algae blooms and turbidity, or cloudy water. This process is also called "internal lake recycling."

Shallow lakes are in many ways different than deeper lakes. Shallow lakes can exist in one of two ways: with cloudy, algae-filled water without vegetation; or with clean water and many aquatic plants.

Those aquatic plants use the available nutrients in the lake and reduce the stirring up of sediment and algae blooms.

To reduce the amount of nutrients reaching the lake, changes in land and lake management will be needed. It will take time to make these changes and to see the effects.

Land Use in the Trumbull Lake Watershed



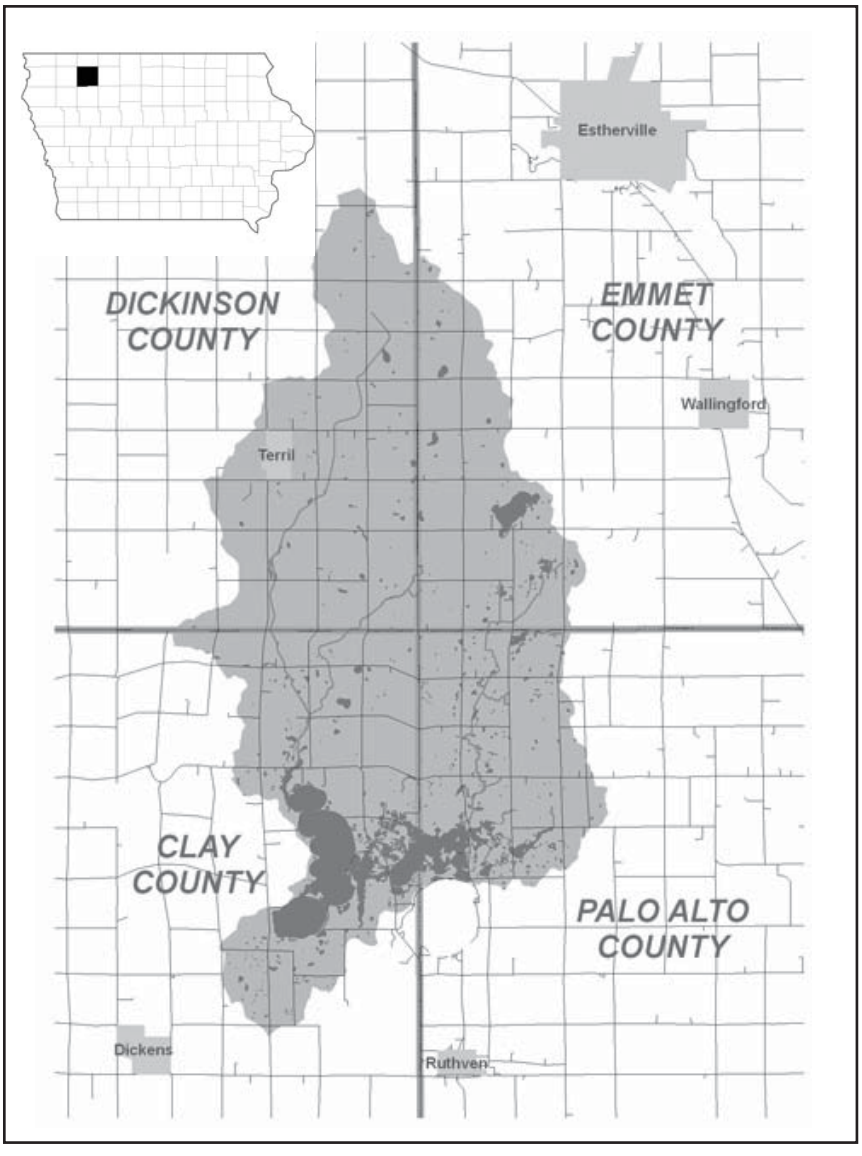
What can be done to improve Trumbull Lake?

The ultimate goal is to improve water quality and remove the lake from the state's impaired waters list. To do that, the levels of algae blooms need to be reduced and water clarity needs to be improved.

Using research results and with the help of the public, the DNR has developed a water quality improvement plan (also known as a TMDL, or total maximum daily load).

The plan will help reduce the amount of pollutants reaching Trumbull Lake. A water quality improvement plan is a suggestion to local communities on how they can improve their area's water quality.

While the DNR has done the background research and can provide some technical and funding assistance, it is ultimately up to the watershed residents and businesses to take action and clean up the lake.



The DNR has suggested the following conservation practices for the Trumbull Lake watershed:

Land management:

♦ Install terraces, ponds or other erosion and water control structures at appropriate places within the watershed to control erosion and reduce the amount of sediment and phosphorus reaching the lake.

♦ Continue encouraging the adoption of reduced tillage systems, especially no-till and strip tillage.

♦ Improve manure application activities and reduce soil erosion.

♦ Manage nutrients on cropland by reducing soil loss and retaining organic matter in the soil.

Lake management:

♦ Use shallow lake management practices, including management of lake water levels to re-establish aquatic plant communities in the lake.

♦ Reduce populations of rough fish, like carp.

♦ Control nuisance fish species by stocking the lake with fish that will eat nuisance fish species.

Dredging is not considered a primary tool for improving Trumbull Lake. Limited dredging could be used, but in-lake and land management changes will make the largest impact.

The map to the left shows the Trumbull Lake watershed shaded in gray. A watershed is an area of land that drains into a body of water. In this case, all land shaded in gray drains into Trumbull Lake.
***Inset:* This map shows where Clay County, home of Trumbull Lake, is located within Iowa.**